

# Choosing an external auditor: does the composition of boards of directors matter?

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## Abstract

**Purpose** – This paper aims to investigate the association between the composition of boards of directors and the choice of external auditor among companies listed on the Kuwait Stock Exchange (KSE) in 2013.

**Design/methodology/approach** – Consistent with prior research, audit quality is represented by two proxies, namely, a Big 4 and Non-Big 4 audit firm. Independence, diversity, interlocks, size and role duality are used as proxies for board composition. To accommodate the dichotomous dependent variable (auditor choice), a logistic regression model is used to test the hypothesized associations between board composition and auditor choice.

**Findings** – After controlling for firm-specific characteristics, results show that independence, diversity and size are statistically significant and increase the likelihood that a KSE-listed company selects a high-quality (Big 4) audit firm. Role duality is also statistically significant but decreases the likelihood of choosing a Big 4 audit firm.

**Practical/implications** – This research has implications for regulators, shareholders, boards and academics. The paper underlines the importance of the composition of the board in increasing the likelihood of hiring a high-quality audit firm. Regulators can draw upon these results when assessing the effectiveness of corporate governance mechanisms.

**Originality/value** – This paper is among the first to study the association between auditor choice and board composition using data from the frontier market of Kuwait, thus responding to the call for empirical research into the issue in less-developed markets. Overall, it sheds light on the effectiveness of board composition and provides empirical evidence that it is an important element in the choice of auditors. The findings indicate that board composition may be a mechanism that can promote demand for high audit quality.

**Keywords** Kuwait, Board composition, External auditor, Auditor choice decisions

**Paper type** Research paper

## 1. Introduction

External audits play a monitoring role on behalf of owners/shareholders and are an essential component of the corporate governance mosaic, as they attest to the credibility of accounting information provided by management (Lin and Liu, 2009). A survey conducted by the Institute of Certified Financial Analysts (ICFA) reveals that 72 per cent of respondents considered the auditor's report to be an important part of their analysis; together with financial reports, it was used in investment decisions (ICFA, 2010). Chow (1982) use agency theory as a framework to analyze companies' incentives to hire an external auditor and postulate that a major motivation is to control conflicts of interest among managers, shareholders and bondholders. Yet, external audits only provide valuable information about a company's financial statements when they are of an adequate quality



(Quick *et al.*, 2013). Chang *et al.* (2009) posit that all external auditors may not offer the same quality of service. Although larger auditors are more expensive, these firms are usually thought to offer a better-quality audit. In his speech about the quality of public company audits, Michel Prada, Chairman of the IFRS Foundation Trustees, claimed that audit quality had become a global issue for standard-setters, regulators and investors. He argued that investors rely on financial statements when making investment decisions and that auditors are responsible for giving relevance and credibility to such statements. If they fail to deliver high-quality audits, investor confidence may plummet, leading to negative consequences for capital markets and local economies (Prada, 2007).

Given the critical role played by external audit quality in the effective and efficient functioning of capital markets, the choice of an auditor is an issue that has significant theoretical and practical implications. Lin and Liu (2009) argue that there is a trade-off between hiring a high-quality auditor (to signal effective monitoring) and hiring a low-quality auditor (to sustain opaque gains, for example through earnings management). Knechel *et al.* (2008) suggest that the reasons why companies choose a specific auditor are complex and are likely to vary across companies. Beattie and Fearnley (1995) note that the process of choosing an auditor emerges from the company's characteristics, the audit firm's characteristics or the auditing environment. Houque *et al.* (2015) argue that choosing an auditor is a complex process that involves financial, strategic, efficiency, information risk and lower information asymmetry considerations. Finally, Houghton and Jubb (2003) note that auditor choice is crucial, not only when the business is in distress or facing failure but also when issues of auditor independence, economic factors and shareholder wealth come into play.

The determinants of auditor choice have been widely studied. Research has focused on institutional and company characteristics, and, in particular, the effect of changes in agency costs and the contracting environment. Corporate governance is thought to be an influential factor. Prior research has posited that it plays an important role in shaping and enhancing financial reporting (Fama and Jensen, 1983). This view is echoed by Cohen *et al.* (2004) who argue that one of its most important functions is to ensure the quality of the financial reporting process. Various authors have proposed numerous internal and external governance mechanisms, including the board of directors, external audits and ownership structures (Haniiffa and Hudaib, 2006). Empirically, studies have documented the role of good corporate governance in auditor choice, and management support for auditors' decisions (Asthana *et al.*, 2010). For example, Abbott and Parker (2000) demonstrate that companies with strong corporate governance mechanisms tend to demand a high level of audit quality.

Fama and Jensen (1983) theorize that the board of directors is the highest-level corporate governance mechanism responsible for monitoring the actions of management. Nevertheless, some wonder whether these boards matter, as their day-to-day impact is difficult to observe. When things go wrong, however, boards often become the center of attention (Adams *et al.*, 2010). Following a series of corporate scandals, boards have been at the center of the regulatory debate concerning governance reform, and the focus of considerable academic research (Adams *et al.*, 2010).

In their review of the role of the board of directors in corporate governance, Adams *et al.* (2010) argue that as all companies have a board, the question of whether they play an active role in corporate monitoring and control cannot be answered econometrically, as there is no variation in the explanatory variable. Instead, researchers must examine differences across boards and ask whether these differences explain differences in the way companies function and their performance. Fama and Jensen (1983) and Beasley (1996) argue that the individuals who serve on the board of directors make an important contribution to its effectiveness. Much of the literature on board effectiveness has focused on the influence of

its structure and composition on company performance or value. The results suggest that boards affect managerial conduct (Gillan *et al.*, 2011). More recently, the literature has paid increasing attention to the effectiveness of the board measured by, for example, financial statement fraud (Beasley, 1996), earnings management (Bradbury *et al.*, 2006), audit quality (Beisland *et al.*, 2015), corporate social performance (Zhang, 2012), corporate mandatory disclosures (Alfraih, 2015), corporate social reporting (Barako and Brown, 2008), corporate voluntary disclosures (Barako *et al.*, 2006) and many others.

Most research into auditor choice has used data from companies in developed markets (Lin and Liu, 2009; Beisland *et al.*, 2015). Lin and Liu (2009) argue that companies in less-developed markets have a different auditing environment. Drawing on this framework, this study extends the auditor choice literature beyond developed capital markets into less-developed markets. It investigates the association between the composition of the board of directors and the choice of external auditor among companies listed on the Kuwait Stock Exchange (KSE) in 2013. Five board composition proxies are used, namely, independence, diversity, interlocks, size and role duality. Consistent with prior research, audit quality was measured using two proxies, namely, Big 4 and Non-Big 4 audit firms. To accommodate the dichotomous dependent variable (auditor choice), a logistic regression model is used to test the hypothesized relationships between board composition and choice of auditor.

The empirical results confirm the predicted association between the composition of the board of directors and choice of auditor. After controlling for firm-specific characteristics, results show that independence, diversity and size are statistically significant and increase the likelihood that a KSE-listed company selects a high-quality (Big 4) audit firm. Role duality is also statistically significant but decreases the likelihood of choosing a Big 4 firm. Contrary to expectations, there is a positive but insignificant link between interlocks and the choice of auditor. Overall, these results suggest that the composition of the board of directors does play a role in the choice of external auditor. Specifically, the findings suggest that in a KSE-listed company, board composition can significantly increase the likelihood that it selects a high-quality (Big 4) audit firm.

This study makes several contributions to the literature. First, research into corporate boards of directors suffers from a limited focus on North American companies (Cravens and Wallace, 2001). This paper is among the first to study the association between auditor choices and board composition using data from the frontier market of Kuwait, thus responding to the call from DeFond and Francis (2005) and DeFond and Zhang (2014) for empirical research into the factors that drive demand for high-quality auditing in less-developed markets. Second, it sheds light on the composition of the board of directors and provides empirical evidence that it is an important element in auditor choices. Third, it provides insights for regulators and policymakers, who can draw upon its results when assessing the effectiveness of corporate governance mechanisms.

The remainder of the paper is organized as follows: Section 2 discusses the related theoretical and empirical literature and develops the hypotheses to be tested. Section 3 discusses the research model and data. Section 4 discusses the empirical results and research findings. The paper concludes in Section 5 with a summary and discussion of results, and an outline of the study's major contributions and implications.

## 2. Theoretical framework and hypothesis development

Section 2.1 provides a brief overview of the related theoretical and empirical literature on demands for audit and audit quality. Section 2.2 presents and discusses prior research on external auditor selection, and Section 2.3 is devoted to hypothesis development.

### 2.1 Demands for audit and audit quality

Agency theory explains the behavior of principals (external equity and debt holders) and agents (corporate managers) with respect to the separation of ownership and control. It addresses the problems that can arise when external equity and debt holders rely on corporate managers to provide services on their behalf (Jensen and Meckling, 1976). Conflicts of interest are exacerbated when these two parties act in their own self-interest, which leads to increased agency costs. Managers have an incentive to reduce these costs, and one way to achieve this goal is to issue reliable financial statements (Morris, 1987).

Lin and Liu (2009) argue that an external audit provides an independent check on the work of agents and the financial statements provided by those agents. It therefore plays a fundamental role in both reinforcing confidence in financial reporting and reducing agency costs. Similarly, Yang *et al.* (2014) argue that the external audit is a monitoring device that increases the reliability of corporate financial statements and consequently reduces agency costs. DeFond and Zhang (2014) document that the high cost of verifying financial statements results in a need for independent third-party assurances. However, the assurance provided by an audit depends on the quality of the efforts (Lin and Liu, 2009).

Prior studies have used agency and contracting theory (Watts and Zimmerman, 1983) to explain differential audit quality (DeAngelo, 1981). Hope *et al.* (2008) argue that high-quality audits reduce information asymmetries and agency conflicts between the company, and its stock and debt holders. The same study posits that there is a positive relationship between the size of the audit firm and audit quality. However, as audit quality cannot be directly measured, other observable factors are used as proxies, such as the size of the audit firm (DeAngelo, 1981; Lin and Liu, 2009). It has also been argued that larger auditors (e.g. the Big 4) offer higher-quality audits because of their greater in-house expertise (DeFond and Zhang, 2014). One conclusion that can be drawn from these prior studies is that audit firm size and its brand name can serve as a proxy for differential audit quality (Francis and Wilson, 1988; Karjalainen, 2011). Given the role of the audit in resolving agency conflicts (audits act as a monitoring device), Houghton and Jubb (2003) argue that the choice of auditor is of the utmost importance. They suggest that shareholders (both large and small), directors and corporate regulators all have an interest in observing, and in some cases, participating in the decision.

Houghton and Jubb (2003) also argue that a company that is audited by a large and reputable firm (e.g. one of the Big 4) will have a higher share price (i.e. shareholder wealth) due to a higher level of integrity and lower information risk. DeFond and Zhang (2014) support this argument and point out that audit quality is an essential component of good financial reporting. A high-quality audit enhances the credibility of financial reports, as there is greater confidence that they faithfully reflect a firm's underlying economics. This confidence reduces information risk, which ultimately improves resource allocation efficiency. Guedhami *et al.* (2014) show that companies audited by the Big 4 are less likely to manage earnings, are more transparent, have higher valuations and have access to cheaper equity financing. Chang *et al.* (2009) provide evidence that external audit quality affects the financing decisions of firms, as higher quality reduces the impact of market conditions on the financial decisions of clients and the capital structure of the firm.

In summary, the theoretical literature suggests there is a positive relationship between external auditor size and audit quality. A distinguishing feature of the empirical research is the use of audit firm size as a proxy for audit quality. Quality is typically classified into two alternatives: Big 4 vs Non-Big 4 auditors. Prior studies provide evidence that use of the Big 4 is highly correlated with audit quality measures (Beisland *et al.*, 2015). The current study thus uses a Big 4 auditing firm as a proxy for external audit quality.

## 2.2 External auditor selection

Auditor selection has been widely researched. Prior studies have focused on identifying organizational and audit firm characteristics; in general, they examine the influence of changes in agency costs or the contracting environment (Tate, 2007). Agency problems increase the need for third-party assurances and improved audit quality, and Dopuch and Simunic (1980) argue that audit requirements are closely related to agency needs. Therefore, the selection of credible auditors is not only an indicator of managerial honesty and high-quality financial statements but also a way to reduce agency costs (via the monitoring function).

In conceptualizing the auditor choice process, Beattie and Fearnley (1995) posit that it emerges from the characteristics of the potential auditors, the auditing environment and client characteristics. While prior studies have been extensive, most have focused on firm characteristics, such as size, complexity, leverage, profitability, industry category and growth (Francis and Wilson, 1988; Houghton and Jubb, 2003; Bewley *et al.*, 2008; Knechel *et al.*, 2008; Francis *et al.*, 2009; Nazri *et al.*, 2012). Other factors include the firm's ownership and corporate governance structure (Tate, 2007; Francis *et al.*, 2009). Some research has investigated links to other mechanisms. For example, Guedhami *et al.* (2014) investigated auditor choice in politically -connected firms and provided evidence that public firms with political connections are more likely to appoint a Big 4 auditor. These findings support the intuitive idea that such firms are eager to improve accounting transparency and convince external investors that they are not using their connections to divert corporate resources. Nazri *et al.* (2012) examined the impact of ethnicity/culture values on auditor choice and found that ethnicity can be significant factor.

To investigate whether efficiency or opportunism is the driving force behind the choice of auditors, Karim *et al.* (2013) examined the impact of three corporate governance attributes – CEO/Chair duality, retained ownership and foreign equity participation in initial public offering (IPO) companies. Their findings showed that CEO/Chair duality and foreign equity participation were significant determinants of auditor choice, while retained ownership was not. These findings support the agency theory prediction that principals (shareholders) are likely to trade-off higher monitoring costs (hiring a better-quality auditor) against agency costs that arise from asymmetric information; costs that are primarily borne by absentee owners.

In summary, prior studies have identified several factors that affect a firm's choice of an external auditor. These studies have focused on auditor characteristics, the institutional environment and company characteristics. However, most have been conducted on firms operating in developed markets. Few studies have examined this issue from the perspective of less-developed markets, where the factors that affect a firm's choice of an external auditor may be different. The purpose of this study, therefore, is to extend the literature and explore auditor choice in the frontier market of Kuwait.

## 2.3 Hypotheses development

**2.3.1 Board independence.** Much of the academic research into the effectiveness of the board of directors focuses on the role and proportion of internal, external and independent directors (Van den Berghe and Levrau, 2004). Empirical research supports the inclusion of external directors to monitor management in acute agency settings (Beasley, 1996). Cadbury (1992) emphasizes that the majority of these directors should be free from any business or other relationships that could materially interfere with the exercise of their independent judgment. Similarly, Beasley (1996) notes that independent directors may be more motivated to carry out their monitoring tasks and less likely to collude with management to



expropriate stockholder wealth. Thus, the inclusion of independent directors increases the board's ability to effectively monitor top managers in agency settings that arise from the separation of corporate ownership and control.

Carcello *et al.* (2002) argue that independent directors may demand differentially higher audit quality to protect their reputation capital, avoid legal liability and promote shareholder interests. Similarly, Sun and Liu (2013) hypothesize that there may be a complementary relationship between strong governance mechanisms and choosing a high-quality auditor. McCabe and Nowak (2008) examine the perceptions of directors regarding the inclusion of independent directors as a "best practice" in corporate governance and find that it is becoming more evident internationally. They show that an increasing number of companies worldwide are adopting the practice of maintaining a minimum number of independent directors on the board. Overall, the theoretical literature suggests that boards with a greater proportion of independent directors will monitor management more closely, and these independent directors will seek ways to reduce information asymmetries with non-independent directors. One way for them to do so is to influence the board to hire the highest-quality external auditors available (Beasley and Petroni, 2001).

Empirically, Beasley and Petroni (2001) investigated the role of independent directors in the selection of external auditors in insurance companies and found that the likelihood of a firm employing a specialized, brand name auditor increased with the percentage of independent board members. Similarly, Leung and Cheng (2014) found that the percentage of independent directors on a board had a significant positive influence on auditor choice. In contrast, Aljabr (2010) failed to document a significant association between the presence of independent directors and auditor choice.

In Kuwait, the law neither distinguishes between independent and non-independent directors nor does it specify their percentages. Given the importance of the role of the independent director and their influence on best practice, it can be argued that they are likely to influence auditor choice. This rationalization leads to *H1* below:

*H1.* All other things being equal, the proportion of independent directors on a board of directors is positively associated with the choice of a high-quality (Big 4) audit firm.

**2.3.2 Board diversity.** A significant increase in regulatory reforms and academic research has stressed the importance of gender diversity in improving corporate governance worldwide (Adams and Ferreira, 2009; Gul *et al.*, 2012). For example, Norway passed a first-of-its-kind law that required all listed firms to have at least 40 per cent female representation in the boardroom (Ahern and Dittmar, 2012). This gender quota has become a model for other countries that are striving to increase female representation on corporate boards. As a result, quotas have since been introduced in Spain, France, Iceland and The Netherlands (Pande and Ford, 2012). Adams and Ferreira (2009) argue that these legislative initiatives are based on the argument that the presence of women will enhance board effectiveness and corporate governance. Although diversity can have costs, Adams *et al.* (2015) argue that it should be considered as a key parameter in any attempts to deliver effective governance.

Empirically, Adams and Ferreira (2009) examined whether governance characteristics differed between diverse and less-diverse boards. Their findings showed that gender composition was positively related to effectiveness. Furthermore, their study revealed that female directors were more independent of management than male directors. These results suggest that female directors have an impact that is similar to that of independent directors.

Prior empirical studies have also supported the link between diversity (as a corporate governance mechanism) and audit quality. Gul *et al.* (2012) show that firms with gender-diverse boards are more likely to choose specialist auditors than their peers and also suggest

that boards with female directors are likely to demand higher audit quality. In his review of the role and function of women on corporate boards, [Burke \(2003\)](#) emphasizes that the presence of a woman impacts the company's reputation and improves the constructiveness of both the board's processes and its deliberations.

In Kuwait, the Companies Law requires that companies have at least three directors who are appointed for a period of not more than three years by secret ballot. However, the Law does not include any articles on diversity ([Al-Shammari and Al-Saidi, 2014](#)). The theoretical literature proposes that the composition of the board is an important factor that contributes to its effectiveness. Given the influence of gender diversity on effectiveness and the demand for high audit quality, it can be argued that the presence of women on a board is likely to be associated with the selection of a high-quality (Big 4) audit firm. This reasoning leads to *H2* below:

*H2.* All other things being equal, the presence of women on the board is positively associated with the selection of a high-quality (Big 4) audit firm.

*2.3.3 Board interlocks.* Audit research implicitly treats the audit as an "experience good", assuming that the client cannot observe its quality *ex ante*, but can determine it *ex post* ([DeAngelo 1981](#); [Craswell and Francis, 1999](#)). This means that the choice of auditor involves uncertainty regarding, for example, the quality of the audit, the quality of the auditors and the completeness and relevance of the auditor's report ([Craswell and Francis, 1999](#); [Johansen and Pettersson, 2013](#)). One way to deal with this uncertainty is observed in the social network literature, which suggests that decision makers are likely to request recommendations from their personal networks ([Johansen and Pettersson, 2013](#)). Board interlocks occur when a director from one company sits on the board of another company. [Houghton and Jubb \(2003\)](#) highlight that directors who serve on multiple boards encounter multiple audit firms. These directors can effectively "test drive" auditors, and they bring this experience to the decisions made on the other boards they serve on.

Furthermore, [Braam and Borghans \(2014\)](#) argue that interlocks (or network ties) are important ways for organizations to exchange information on effective corporate practices and are a form of social capital that can create new opportunities to share experiences. Similarly, [Johansen and Pettersson \(2013\)](#) argue that board interlocks can enable the sharing of knowledge and experience related to auditors, and that these interlocks impact auditor choice. Drawing on the board network literature and social network theory, they provide clear evidence that directors not only use their own experience with auditors but also draw on the experience of the members of other boards. [Fama and Jensen \(1983\)](#) posit that directors holding multiple directorships make a substantial investment in developing their reputation capital as competent directors and are a signal of director quality. [Ferris et al. \(2003\)](#) argue that appointment to multiple boards may reflect a good track record in improving company performance. They claim that if the marketplace for directors is linked to corporate performance, then success will generate additional offers, which in turn suggests that reputation matters in the market.

Empirically, [Ferris et al. \(2003\)](#) found that the announcement of the appointment of multiple directors was associated with significant positive abnormal returns, which supports [Fama and Jensen's \(1983\)](#) theoretical contention that there is a reputational effect in the director market. [Johansen and Pettersson \(2013\)](#) showed that board interlocks may be a corporate governance mechanism that mitigates audit market failure due to a lack of auditor differentiation. [Chin and Chan \(2013\)](#) found that audit quality is significantly and positively associated with interlocked boards.

According to Article 140 of the Kuwait Commercial Companies Law, a director should not serve on the board of directors of more than three companies at the same time, and should not be a Managing Director or Chairman of more than one company headquartered in Kuwait. In practice, multiple directorships are common in Kuwait, especially on firms that invest in each other. As directors serving on the boards of multiple companies will encounter multiple audit firms, and given the reputational capital of these directors, multiple directorships are more likely to be associated with the selection of a high-quality (Big 4) audit firm. This leads to *H3* below:

*H3.* All other things being equal, multiple directorships are positively associated with the selection of a high-quality (Big 4) audit firm.

*2.3.4 Board size.* In their evaluation of what constitutes an effective corporate board, [Van den Berghe and Levrau \(2004\)](#) found that its size is widely discussed in the literature, and that there are two perspectives. It is argued that larger boards have greater knowledge, skills and experience at their disposal than their smaller counterparts. This is expected to result in the greater availability of potential leadership resources and increase the likelihood that mutual, peer influences emerge ([Vandewaerde et al., 2011](#)). [Forbes and Milliken \(1999\)](#) argue that larger boards have greater expertise, which improves monitoring and the quality of financial reporting. [Van den Berghe and Levrau \(2004\)](#) argue that expanding the number of directors may provide boards with a wider variety of perspectives regarding corporate strategy and limit CEO domination. Similarly, [Zahra and Pearce \(1989\)](#) posit that larger boards are not as susceptible to managerial domination as their smaller counterparts. [Anderson et al. \(2004\)](#) argue that large boards are more effective monitors of the financial accounting process and tend to improve overall financial transparency and reliability. [Ianniello et al. \(2015\)](#) argue that larger boards may be more motivated to choose a high-quality external auditor to mitigate organizational problems and improve perceptions of the quality of their published financial statements.

In their analysis of the relationship between board size and external auditor choice, [Ianniello et al. \(2015\)](#) provide empirical evidence that the size of the board is positively and significantly associated with the choice of a Big 4 auditor. However, [Beisland et al. \(2015\)](#) did not find a significant relationship in profit and nonprofit microfinance institutions. They argue that microfinance is a relatively new and high-growth industry, and that the industry's lack of maturity might be one reason why board size appears to be unrelated to audit quality.

According to Article 138 of the Kuwait Commercial Companies Law, a board of directors shall consist of not less than three members who are appointed by secret ballot. In practice, the size of the board of a KSE-listed firm varies. For example, in 2013, it ranged from 3 to 10. Given the benefits associated with larger boards (such as greater expertise and effective monitoring), it can be argued that larger boards are more likely to be associated with the selection of a high-quality (Big 4) audit firm. This finding leads to *H4* below:

*H4.* All other things being equal, the size of the board of directors is positively associated with the selection of a high-quality (Big 4) audit firm.

*2.3.5 Board role duality.* In contemporary corporate governance structures, the board of directors must ensure that managers act in the interests of shareholders. However, some directors are also executives in the same firm (including the position of CEO). As a result, there is a lack of internal checks regarding the two most powerful positions in the corporate decision-making process ([Lin and Liu, 2009](#)). [Adams et al. \(2010\)](#) argue that the use of the dual title structure in corporate governance gives CEOs greater control; however, this is at



the expense of other parties, including independent directors. Imhoff (2003) criticizes CEO/Chair duality and argues that top management's influence on board composition is incompatible with effective corporate governance. As the board's primary role is to oversee management on behalf of shareholders, he questions why the management is allowed to hold such an important position. To improve the corporate governance process in general, and the quality and integrity of financial reporting in particular, he suggests that regulators prohibit a CEO (or any other past or current top manager) from acting as Chairman of that company's board of directors, from being responsible for setting the board's agenda and meeting requirements or from being involved in any way in the nomination of future directors. Beisland *et al.* (2015) posit that CEO/Chair duality is a sign of higher agency costs produced by greater information asymmetries between management stakeholders.

Using a sample of listed companies in Italy, Ianniello *et al.* (2015) showed that a concentration of power (stemming from the dual roles of Chairman and CEO) tended to discourage the choice of a reputable auditor. In an empirical study, Beisland *et al.* (2015) investigated the relationship between audit quality and several corporate governance mechanisms. Their findings showed that the only variable with statistical significance was CEO/Chair duality, which was associated with lower-quality external auditors. Similarly, Karabrahimoglu (2013) showed a negative association between auditor quality and CEO/Chair duality, suggesting that its presence decreased demand for high-quality auditors.

In contrast to best practice in other jurisdictions, directors of KSE-listed companies can both chair the board of directors and be CEO, as there is no legal requirement to separate the two roles (Alfraih *et al.*, 2015). Given the expected influence of a combined CEO/Chair on a board's ability to effectively monitor management, it can be argued that its presence is less likely to lead to the selection of a high-quality (Big 4) audit firm. This rationalization leads to *H5*:

*H5.* All other things being equal, role duality is negatively associated with the selection of a high-quality (Big 4) audit firm.

### 3. Data and empirical model

#### 3.1 Data and sample

The initial sample consisted of all companies listed on the KSE in 2013. The 2013 Investor Guide for the KSE shows that at the end of 2013, there were 195 firms listed. Data on auditor choice, board composition and company characteristics were acquired from three sources:

- (1) company's annual reports for the year 2013;
- (2) the 2013 KSE Investor Guide; and
- (3) the official website of the KSE ([www.kse.com.kw](http://www.kse.com.kw)).

Data were incomplete for 13 companies, and they were excluded. Thus, the final sample consisted of 182 companies. Table I presents the number and percentage of companies by industry. It is evident that the sample is diverse across industry classifications.

#### 3.2 Definition and measurement of variables

The purpose of this study is to investigate the influence of the composition of the board of directors (a corporate governance mechanism) on the choice of external auditor. Prior studies show that the use of Big 4 auditor is strongly related to audit quality; therefore, this study uses a Big 4 auditing firm as a proxy for external audit quality.

Five hypotheses were developed that examine the effect of board composition (independence, gender, interlocks, size and role duality) on audit quality. However, the literature identifies certain company characteristics that may influence the choice of auditor. These include its size, complexity, leverage, profitability and industry classification (Beattie and Fearnley, 1995; Houghton and Jubb, 2003; Knechel *et al.*, 2008; Lin and Liu, 2009; Beisland *et al.*, 2015; Houqe *et al.*, 2015). Hence, it is important to control and isolate these potential effects. Table II provides definitions and measures of the dependent, independent and control variables used in this study.

### 3.3 Auditor choice regression

To accommodate the dichotomous dependent variable, a logistic regression model was used to test the hypothesized relationships between board composition and audit quality. Following prior studies and the discussion above, the model is specified as:

Industry classification	No. of companies	(%)
Banking and insurance	17	9
Investment	40	22
Real estate	36	20
Manufacturing	33	18
Services	56	31
Total	182	100

Source: Kuwait Stock Exchange, 2013

**Table I.**  
Industry classification and number of companies at the end of 2013

Variable	Acronym	Measurement
<i>Dependent variables</i>		
Auditor choice	<i>Choice</i>	Dummy variable that represents auditor choice. It is equal to one (1) if a Big 4 auditing firm audits the company's financial statements and zero (0) otherwise
<i>Independent variables</i>		
Board Independence	<i>Independence</i>	Proportion of independent directors on the board to the total number of directors on the board of company <i>i</i> at time <i>t</i>
Board diversity	<i>Diversity</i>	Dummy variable that equals 1 if women are present on the board and 0 otherwise
Board interlocks	<i>Interlocks</i>	Proportion of directors on the board with interlocks in other companies to total board size of company <i>i</i> at time <i>t</i>
Board size	<i>Bsize</i>	Number of directors on the board of company <i>i</i> at time <i>t</i>
Board role duality	<i>Duality</i>	Dummy variable that equals 1 if the CEO of company <i>i</i> at time <i>t</i> is also the Chairman of the board, and 0 otherwise
<i>Control variables</i>		
Firm size	<i>Fsize</i>	The natural logarithm of total assets
Firm complexity	<i>Complexity</i>	The number of consolidated subsidiaries, associates and joint ventures
Firm leverage	<i>Leverage</i>	The ratio of total debt to total assets
Firm profitability	<i>Profitability</i>	The ratio of net income divided by total assets
Industry classification	<i>Industry</i>	A dummy variable that equals 1 for companies in the financial category, and 0 otherwise

**Table II.**  
Definition and measurement of variables

$$\begin{aligned}
\text{Choice} = & \beta_0 + \beta_1 \text{Independence}_{it} + \beta_2 \text{Diversity}_{it} + \beta_3 \text{Interlocks}_{it} + \beta_4 \text{Bsize}_{it} \\
& + \beta_5 \text{Duality}_{it} + \beta_6 \text{Fsize}_{it} + \beta_7 \text{Complexity}_{it} + \beta_8 \text{Leverage}_{it} \\
& + \beta_9 \text{Profitability}_{it} + \beta_{10} \text{Industry}_{it} + \varepsilon_i
\end{aligned} \tag{1}$$

## 4. Results and discussion

### 4.1 Descriptive statistics

Table III provides descriptive statistics. Panel A (auditor choice) indicates that of the 182 companies, 108 (59 per cent) were audited by Big 4 firms, and 74 (41 per cent) were audited by Non-Big 4 firms.

Panel B of Table III (board composition) shows that on average, 78 per cent of directors were independent, ranging from 47 to 100 per cent. This suggests that the typical board structure consists of a majority of independent directors and a minority of non-independent directors. The average percentage of directors with interlocks in other companies was 10 per cent, ranging from 0 to 100 per cent, suggesting that few directors were involved in more than one board. The total number of directors ranged from 3 to 10, with an average of 6.10. Panel C of Table III shows that 42 (23 per cent) of companies in the sample had female directors and 64 (35 per cent) had CEO/Chair duality.

With respect to control variables, Panel B of Table III shows that company size, measured by total assets, ranged from Kuwaiti Dinar (KD) 1.68 million to KD 18,600.14 million, with an average of KD 533.25 million. Complexity, measured by the number of consolidated subsidiaries, associates and joint ventures, ranged from 0 to 34, with an average of 6.75. Average leverage was 30 per cent, ranging from 0 to 100 per cent, while average profitability was 3 per cent, ranging from -0.25 to 20 per cent. Due to its non-normal distribution, company size was transformed using a natural log transformation.

#### Panel A: Dependent variable – auditor choice

Auditor choice	Observations	(%)
Big 4 audit firm	108	59
Non-Big 4 audit firms	74	41
Total	182	100

#### Panel B: Independent variables – continuous variables

Variable	Mean	Standard deviation	Minimum	Maximum
Board independence	0.78	0.98	0.47	1.00
Board interlocks	0.10	0.16	0.00	1.00
Board size	6.10	1.57	3	10
Firm size	533.25	207.45	1.68	18,600.14
Firm complexity	6.75	4.75	0.00	34.00
Firm leverage	0.37	0.24	0.02	0.89
Firm profitability	0.03	0.06	-0.25	0.23

#### Panel C: Independent variables – dummy variables

Variable	Yes	(%)
Board diversity	42	23
Board role duality	64	35
Industry classification		
Financial companies	57	31
Non-financial companies	125	69

**Table III.**  
Descriptive statistics

#### 4.2 Bivariate correlation

Pearson's correlation and Spearman's rank correlation for independent variables are shown in Table IV. An examination of the correlation matrix reveals that the explanatory variables are satisfactorily independent, as no pair-wise correlation coefficient is above 0.80. The correlation matrix suggests that there are no multicollinearity concerns.

#### 4.3 Multivariate analysis

A logistic regression ascertained the effects of board composition on the decision to hire a high-quality (Big 4) audit firm. The model contained ten independent variables, namely, board independence, board diversity, board interlocks, board size, board role duality, firm size, firm complexity, firm leverage, firm profitability and industry classification. The full logistic model containing all predictors was statistically significant,  $\chi^2(10, N 182) = 73.79, p < 0.001$ , indicating that the model was able to distinguish between KSE companies that selected Big 4 audit firms and those that did not. The overall logistic model explained between 33.3 per cent (Cox and Snell  $R^2$ ) and 45.5 per cent (Nagelkerke  $R^2$ ) of the variance in auditor choice, and correctly classified 78.6 per cent of cases. Table V shows that of the five board composition variables, four were statistically significant, namely, independence, diversity, size and role duality.

The logistic regression results presented in Table V show that independence has a statistically significant effect on auditor choice ( $p < 0.10$ ) and is the strongest predictor of selecting a Big 4 audit firm (an odds ratio of 5.976). This finding supports  $H1$ , and suggests that a one unit increase in the proportion of independent directors leads to a sixfold increase in the likelihood that a high-quality (Big 4) audit firm will be selected. This result is consistent with the notion that independent directors tend to protect their reputation capital, avoid legal liability and promote shareholder interests through their differential demand for higher audit quality (Carcello *et al.*, 2002).

Table V also reveals that diversity, measured by the presence of women, significantly ( $p < 0.10$ ) predicts audit quality. The presence of women on the board leads to a 2.3-fold increase in the likelihood of selecting a high-quality (Big 4) audit firm. This finding supports  $H2$ , which predicts a positive association between the presence of women and the selection of a high-quality (Big 4) audit firm. This finding also supports prior research that highlights the importance of gender diversity in the boardroom for improving corporate governance.

Multiple directorships are common in Kuwait, and as directors who serve on more than one board encounter multiple audit firms,  $H3$  predicted a positive relationship between multiple directorships and the selection of a high-quality (Big 4) audit firm. However, the results presented in Table V show that there is a positive, but insignificant, link.

Given the benefits associated with larger boards (such as greater expertise and effective monitoring),  $H4$  predicted a positive association between size and the selection of a high-quality (Big 4) audit firm. Consistent with  $H4$ , Table V shows that the effect is statistically significant ( $p < 0.01$ ). The positive coefficient suggests that a one unit increase in board size leads to a 1.6-fold increase in the likelihood of choosing a high-quality (Big 4) audit firm.

With respect to the influence of CEO/Chair duality on the board's ability to monitor management,  $H5$  predicts a negative association between duality and the selection of a high-quality (Big 4) audit firm. The results presented in Table V support  $H5$ , as duality is shown to have a statistically significant ( $p < 0.05$ ) effect. The negative coefficient suggests that it decreases the likelihood of choosing a Big 4 audit firm by approximately three times

**Table IV.**  
Bivariate correlations  
between independent  
variables

Independent variable	BI	BD	BL	BS	BR	FS	FC	FL	FP	IC
Board independence (BI)										
Board diversity (BD)	-0.01									
Board interlocks (BL)	0.06	0.08								
Board size (BS)	0.12	0.14	0.06							
Board role duality (BR)	-0.03	0.06	0.24**	-0.05						
Firm size (FS)	0.20**	0.03	0.24**	0.35**	-0.12					
Firm complexity (FC)	0.10	0.06	0.29**	0.13	0.01	0.24**				
Firm leverage (FL)	-0.07	0.13	0.07	-0.04	-0.01	-0.05	0.12			
Firm profitability (FP)	-0.03	0.07	-0.04	-0.15*	-0.01	-0.04	-0.10	-0.08		
Industry classification (IC)	0.18*	0.14	0.04	0.11	0.30**	0.24**	0.15**	-0.17*	-0.06	
Board independence (BI)			0.06	0.28**	-0.58**	0.18*	0.14	-0.03	0.01	0.04*
Board diversity (BD)			0.08	0.11	-0.03	-0.02	0.05	0.05	0.08	0.15
Board interlocks (BL)			0.14	0.14	0.04	0.24**	0.20*	0.07	-0.10	0.04
Board size (BS)			0.06	-0.05	-0.02	0.38**	0.11	0.01	-0.13	0.11
Board role duality (BR)			0.24**	0.35**	-0.12	0.02	-0.05	0.12	-0.05	0.30**
Firm size (FS)			0.29**	0.13	0.01	0.24**	0.39**	0.36**	-0.09	0.19*
Firm complexity (FC)			0.07	-0.04	-0.01	-0.05	0.12	0.24**	-0.10	0.12*
Firm leverage (FL)			-0.04	-0.15*	-0.01	-0.04	-0.10	-0.08	-0.16*	-0.21*
Firm profitability (FP)			0.04	0.11	0.30**	0.24**	0.15**	-0.17*	-0.06	-0.07

**Notes:** \*, \*\* Correlation is significant at  $\leq 0.05$  and  $0.01$  levels, respectively (two-tailed). Above the diagonal presents Spearman's correlation and below the diagonal presents Pearson's correlations for board of directors' characteristics, together with control variables



Table V.  
Logistic regression results

Auditor choice	B	SE	Wald	Significance	Odds ratio
Constant	-7.795	3.192	6.205	0.013	
<i>Board composition</i>					
Board independence	1.788	1.005	3.166	0.075	5.976
Board diversity	0.853	0.492	3.012	0.083	2.347
Board interlocks	1.315	1.192	1.218	0.270	3.726
Board size	0.485	0.154	9.924	0.002	1.625
Board role duality	-1.090	0.444	6.027	0.014	0.336
<i>Control variables</i>					
Firm size	0.291	0.171	5.778	0.016	1.337
Firm complexity	0.132	0.052	6.355	0.012	1.141
Firm leverage	-1.105	0.906	1.488	0.223	0.331
Firm profitability	0.023	0.031	0.536	0.464	1.023
Industry classification	0.988	0.530	3.469	0.063	2.686

**Notes:** *Board independence* is the proportion of independent directors on the board to the total number of directors on the board of firm *i* at time *t*; *Board diversity* is a dummy variable that equals 1 if women are present on the board and 0 otherwise; *Board interlocks* is the proportion of directors on the board with interlocks in other firms to total board size of firm *i* at time *t*; *Board size* is the number of directors on the board of firm *i* at time *t*; *Board role duality* is a dummy variable that equals 1 if the CEO of firm *i* at time *t* is also the Chairman of the board, and 0 otherwise; *Firm size* is the natural logarithm of total assets; *Firm complexity* is the number of consolidated subsidiaries, associates and joint ventures; *Firm Leverage* is the ratio of total debt to total assets; *Firm profitability* is the ratio of net income divided by total assets; *Industry classification* is a dummy variable that equals 1 for companies in the financial category, and 0 otherwise. and *t* year = 2013

(1/0.336). This finding provides support for claims that CEO/Chair duality is incompatible with effective corporate governance.

With respect to control variables, Table V shows that firm size (measured by the log of total assets), complexity (measured by the number of consolidated subsidiaries, associates and joint ventures) and industry classification have a positive and significant effect on auditor choice. These findings suggest that large, more complex companies tend to choose Big 4 audit firms. In contrast, leverage and profitability are not significant at conventional levels, suggesting that they do not impact auditor choice.

## 5. Conclusion

The study investigates the association between the composition of boards of directors and the choice of external auditor in companies listed on the KSE in 2013. Five proxy board characteristics were examined, namely, independence, diversity, interlocks, size and role duality. Consistent with prior research, two audit quality proxies were used, namely, a Big 4 or Non-Big 4 audit firm. To accommodate the dichotomous dependent variable (auditor choice), a logistic regression model tested the hypothesized relationships.

After controlling for firm-specific characteristics, the logistic regression results show that independence, diversity, and size are statistically significantly and increase the likelihood that a KSE-listed company selects a high-quality (Big 4) audit firm. The results also reveal that role duality is statistically significantly and decreases the likelihood of choosing a Big 4 audit firm. However, the results show that the link between interlocks and choice of a Big 4 audit firm is positive but insignificant. Overall,

these results suggest that the composition of the board of directors does matter in choosing an external auditor.

These findings make a number of significant contributions to our understanding of the association between the composition of the board of directors and the choice of external auditor. First, this paper is one of the first to study the association between auditor choice and board composition using data from the frontier market of Kuwait; thus, it responds to the call for empirical research in less-developed markets. Second, the study sheds light on the effectiveness of the composition of the board of directors and provides empirical evidence that they are an important element in the choice of auditor. The findings indicate that board composition may constitute a mechanism to promote demand for high audit quality. Third, this research has implications for regulators, shareholders, boards and academics. The paper highlights the importance of the composition of the board of directors in increasing the likelihood of hiring a high-quality audit firm. Regulators can draw upon these results when assessing the effectiveness of corporate governance mechanisms.

As with any research, certain limitations should be considered when interpreting the results. First, although the study attempted to cover all KSE-listed companies, conclusions are drawn from an unavoidably small sample size (given the relatively small KSE market). Second, although regression analysis provides insight into the association between the board composition and choice of auditor, its limitation is its failure to prove causality. Third, the study concentrates on the board of directors and does not examine other corporate governance mechanisms. This study's findings and limitations offer several possible areas for further research that could, for example, focus on the effects of institutional and government ownership on auditor choice. Another interesting avenue would be to look at the influence of the composition of the audit committee on the choice of external auditor.

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